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Foreword

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North Vietnam, economically devastated and disorganized by years of civil strife, fell to the Communist bloc in mid-1954. Economic reconstruction and the maintenance of an expanded military establishment were immediate prerequisites of a viable Viet Minh regime. In their attainment, rehabilitation of the transport sector of the economy was recognized as essential and accorded highest priority. This paper attempts to gauge the success of Viet Minh efforts to repair the damage sustained by the various means of distribution, and to indicate accompanying economic and strategic implications as they affect the internal recovery of North Vietnam and neighboring countries, both hostile and friendly.

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Transport Rehabilitation in North Vietnam -- Progress and Implications*Summary and Conclusions

The transport system inherited by the Viet Minh following the armistice and French withdrawal was completely disorganized and severely damaged by years of civil strife. Nevertheless, during the hostilities it had provided the Viet Minh with sufficient mobility, as well as the means of acquiring and distributing sorely-needed military supplies from Communist China. Economic reconstruction and the preservation of an expanded military establishment, however, made essential the immediate rehabilitation of transport facilities. Highest priority was given to the task. Chinese Communist largess compensated for limited material and technical resources of the Viet Minh, whose main contribution has been the provision of masses of unskilled laborers, recruited by the thousands for rail and highway construction. While Chinese Communist aid has been small, it looms large in areas of limited capital development and constitutes an important propaganda medium for the promotion of Communist influence in Asia.

Completion of reconstruction plans, overly ambitious in most cases, has been impeded by the extensive damage sustained by rail and highway bridges. Nevertheless, progress has been steady. Strategic rail and highway links with Communist China and the connecting road network of the Tonkin delta received primary emphasis, to facilitate the movement and distribution of increasing material assistance from China. By the end of 1955 the main highway routes

* The estimates and conclusions contained in this memorandum represent the best judgement of OSA as of 1 May 1956.

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had been largely restored to their prewar condition and the principal rail connection to the north had been in operation for almost a year. Moreover, overland trade connections were considerably augmented by acquisition of the port of Haiphong in May 1955, which permitted direct foreign trade with countries other than Communist China. As a result, the virtually complete economic dependence of North Vietnam on its northern neighbor was reduced and overland transport facilities were relieved of a growing traffic burden.

Plans for 1956 assure, with continued bloc assistance, further restoration of the essential rail and highway networks of North Vietnam and the improvement of its important ocean terminals. Their fulfillment is essential not only to economic recovery and development, but also to provide mobility for Viet Minh military forces which since the cease-fire have been expanded, reorganized and reequipped with heavier and more modern weapons. Completion of planned transport rehabilitation, moreover, will enhance immeasurably Viet Minh logistic capabilities to receive and distribute supplies from China to both the seventeenth parallel and the Northern Laotian frontier, across which the Viet Minh sponsored Pathet Lao are struggling with the forces of constituted government. Consideration of the effectiveness of Viet Minh forces during the hostilities, with only a network of trails and dilapidated roads, serves to illustrate the relative increase in logistic capability which has accompanied transport rehabilitation.

Chinese beneficence will not go unrewarded. Acquisition of Haiphong, of growing economic importance to the Viet Minh, will also be of considerable

advantage to the Chinese in conjunction with removal of the rail link between Yenan and North Vietnam. Integration of the Sino-Vietnamese rail system will provide a valuable outlet through Haiphong for Yenan's mineral resources, thereby avoiding long internal truck and water hauls to distant rail and sea transshipment points in Communist China.

I. Transport Rehabilitation

Restoration of the war-damaged transport system of North Vietnam, essential to economic recovery and mobility of an expanded and modernized army, was the primary task facing the Viet Minh upon assuming control of the country in the fall of 1954. It was undertaken immediately and with great urgency. Continued beneficence of Communist China, the source of sufficient arms aid to assure the Viet Minh military success during hostilities, provided the technical and material resources lacking in North Vietnam for economic rehabilitation.

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Although original plans have not been entirely fulfilled, progress in restoring the transport sector of the economy has been steady. Typically, workers emulation programs and material savings drives were initiated immediately, followed by a plethora of detailed announcements ensuring success. Neither savings in material nor improvement in efficiency, regardless of moment, has been overlooked in the propaganda so profusely disseminated to illustrate the

benefits of communism. Such devotion to progress, however, probably has been of little solace to the masses of conscripted peasants engaged in reconstruction under extremely difficult conditions.

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A. Rail

The rail system of North Vietnam as originally constituted consisted of four meter-gauge lines radiating from the capital city of Hanoi--two northward to the Chinese border at Lao Kay and Van Quan, one east to the major port of Haiphong, and another south along the coast toward Saigon. With the exception of the line to Haiphong, which was operable when acquired by Viet Minh, the rail net was destroyed during the war. Reconstruction began immediately.

Extensive Chinese Communist material and technical assistance ^{5/} was supplemented domestically by a vast program to collect undamaged rails, ties and rail fastenings. ^{6/} By the end of 1955 about 220 kilometers of track had been restored.

Strategic connections with Communist China have been given major consideration, as indicated by the fact that during 1955 only 80 kilometers of track was laid below Hanoi, on the coastal line between Van Dien and the textile center of Nao Binh. ^{7/} Reconstruction of the railroad between Hanoi and the border at Van Quan to meet the Chinese rail line from Ping-Hsiang received immediate priority. This proved to be the most efficient means of supplementing low-capacity trans-border roads which, although effectively used for military supply movements from Communist China during the hostilities were

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Inadequate for sustained economic and military traffic. Lacking indigenous capability, the Viet Minh relied on Communist China to provide a railway engineering group to supervise technical aspects of the project. 8/ Unskilled labor was the principal contribution of the Viet Minh, and large numbers of peasants were recruited or conscripted from far and near. At one time 100,000 workers were reported to be engaged in construction between Hanoi and Haiphong. 9/

Hasty restoration of the line to meter-gauge to obtain the benefits of its utilization as quickly as possible was completed in February 1955, 10/ but the need for additional improvements has limited its full use.

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In August 1955, the

Hanoi-Hai Phong line was officially opened for through international traffic, although it was being used for this purpose well before. 11/

Reconstruction of the 206-kilometer meter-gauge railroad from Hanoi to Lang Son in the upper Red River area, which was undertaken in March 1955, 12/ was originally scheduled for completion during that year. 13/ Dismantled and used as a road for supplies from Communist China during hostilities, 14/ the line had to be restored almost in its entirety. Progress was slower than anticipated, mainly because of equipment and material shortages and bridging difficulties. By the end of April 1956, however, with the aid of some 80,000 Vietnamese laborers directed by Chinese Communist technical cadre, the line's roadbed

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and track had been restored.

B. Highway

The highway system of North Vietnam originally comprised some 12,500 kilometers of main and secondary roads, of which about two-fifths were usable only in dry seasons. During the war, when the road net was heavily damaged, only a few routes of military importance were maintained.

Reconstruction following the hostilities, however, had restored approximately 6,300 kilometers of roads to usable condition by October 1955. 17/ Credit for this achievement must also be shared with Communist China, which provided limited though necessary road-building machinery, materials, and petroleum products used by thousands of Viet Minh laborers engaged in construction. 18/

High priority was given to reconstruction of the east-west route from Hanoi westward to Lai Chau. Accompanied by the establishment of military depots along the Northern Laotian frontier, this road is well-suited for supply of Pathet Lao forces attempting to maintain military control of the northern provinces of Phong Saly and Sam Neua in Laos. Major attention was also devoted to the coastal road south to Vinh Linh, as well as to the routes from Haiphong and Cao Bang on the Chinese Communist border to the Delta area, which were immediately necessary to facilitate the receipt of Chinese Communist aid. 19/

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C. Water

Water transport apparently has required only negligible attention in the

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the rehabilitation program, because the facilities acquired by the Viet Minh after the hostilities were in reasonably adequate condition and capable of limited use with small improvement. River transport was almost completely neglected by the French, according to the Viet Minh, but Chinese Communist aid permitted limited traffic by the end of 1955. 21/ Efforts probably were confined to clearing impediments to navigation and maintaining channel depths in the Red and Saire rivers, the principal waterways of the country. Neither waterway is important for Sino-Viet Minh trade, however, because of shallow depths in their upper reaches, although they provide a necessary means of local distribution in the delta area.

By far the most important prize in water transport gained by the Viet Minh was Haiphong, the port of Hanoi. Its acquisition in May 1955 provided a valuable supplement to overland international connections, and for the first time permitted direct foreign trade with countries other than Communist China. As a result, the economic dependence of North Vietnam on its northern neighbor and the complete reliance on trans-border road and rail facilities were appreciably reduced.

Although cargo operations were restricted by the French removal of harbor craft, Haiphong was soon reactivated with the assistance of Communist China. 22/ In June shipping began to arrive at the port carrying material aid from the Soviet bloc. Up to the beginning of April 1956 Haiphong had received some 106,000 tons of cargo from the USSR and European satellites, including ammonium sulphate, machinery, motor vehicles and spare parts,

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iron and steel, and petrochemical products. It had also imported 150,000 tons of rice acquired by the USSR under a trade agreement with Burma and donated to the Viet Minh in an attempt to alleviate the food shortage in North Vietnam. 23/ Reports from Haiphong, as well as other ports of North Vietnam, have been negligible.

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The volume of coastal traffic between North Vietnam and China apparently has been of secondary importance.

Haiphong has been able with few improvements to handle the limited traffic required thus far. Neglect of equipment and facilities during the war and constant rapid silting in its approaches, however, have limited the port's capacity and may prove a serious deterrent to its more effective use in the near future. Until recently only one dredge, of considerable age and dubious efficiency, was available, but it was unable to maintain depths sufficient for the previous maximum permissible vessel draft of 23 feet.

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Maintenance and improvement efforts are being undertaken, however, to prevent conditions at Haiphong from becoming intolerable as foreign trade is stimulated by increased production of coal, cement and other traditionally exported commodities which will provide necessary sources of foreign exchange.

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for imports of machinery and tools so badly needed for economic recovery.

Plans for 1956 include "reinforcement" of the port, 27/ but the extent to which this effort will meet requirements cannot be judged.

In the latter part of March 1956 a Soviet dredge arrived in Haiphong. 28/ Since its arrival, the dredge which has a capacity to remove 2,000 cubic meters of mud per hour, has been occupied in deepening the approaches to Haiphong harbor. 29/ Its efficacy in relation to the fast silting rate cannot be judged, but its use will certainly improve the situation. Moreover, two other dredges are on order from Holland and the USSR.

Further relief of Haiphong's facilities may be expected by improvement of the port of Ban Thuy, where considerable effort has been devoted to building several wooden piers for Liberty-type vessels. 30/ Its "reinforcement" is also planned in 1956. Accompanied by planned extension of the coastal railroad to neighboring Vinh and a branch line to the port, the use of Ban Thuy for ocean-going ships will if necessary permit diversion of some seaborne traffic from Haiphong.

D. Civil Air

Until recently the Viet Minh were solely dependent for civil air transport on services established by Poland to provide transportation for its delegation to the International Control Commission (ICC). On 15 December 1955, however, the creation of a civil aviation administration was announced by the Viet Minh, 31/ and in January the first of five aircraft on order from China

arrived in North Vietnam. 32/ [Redacted]

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Establishment of civil air service in North Vietnam is

due in large part to assistance from Communist China which provided the technical knowledge as well as the installations and apparatus for restoration of civil airports and meteorological observation stations. 24/ [Redacted]

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III. Prospects and Implications

The Viet Minh plan in 1956 to restore ~~another~~ 320 kilometers of railroads, including the Hanoi-Lao Cai line which was completed in April and a further stretch of the coastal route to the seventeenth parallel, probably as far as Vinh. Restoration of the highway system to its original status can also be expected during 1956, when the Viet Minh plan to rehabilitate another 3,500 kilometers of damaged road. 24/ Economically, therefore, the essential basis for recovery will have been laid; strategically, Viet Minh logistic capability from the borders of Communist China and to South Vietnam and Laos will be enhanced immensely.

4. Cooperation

The success of Viet Minh efforts in restoring transport services is reflected in plans for major increases in freight carried by rail, road and water transport, which are to perform a total of 271 million ton-kilometers (TM) in 1956. 24/ The breakdown of the 1956 target figures between the various carriers -- rail 123 million TM, water 137 million TM and highway 11 million TM -- indicates that rail and water transport are resuming their former dominant positions. Motor transport, on the other hand, will be used in its

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traditional role as a means of local distribution, rather than for long-haul carriage required during and immediately following the war when railroads were inoperable.

Plans to increase performance will depend in large part on the availability of sufficient freight-carrying units, which in turn is a function of both quantity and serviceability. The growing dependence on rail and water transport should permit more rational utilization of a large part of the motor vehicle park, estimated to total about 3,000 trucks obtained largely from Communist China during and after the war. However, rail transport equipment left by the French, the bulk of that now available to the Viet Minh, is old ^{38/} and probably requires frequent maintenance. Communist China has compensated to some extent for inventory deficiencies by providing some rolling stock and native power, ^{39/} but there are indications that the Viet Minh are having difficulty meeting demands with the 70 locomotives and 1,300 freight cars currently available. ^{40/} Moreover, capability to maintain and repair equipment, while slowly increasing, is still severely limited. Small craft inventory probably is similarly limited because of

French removals,

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In view of these limitations and the likelihood of

their aggravation by the sub-standard character of rail and highway restoration, plans to increase transport performance may be difficult to fulfill, despite the continued receipt of aid from Communist China.

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Nevertheless, the magnitude of planned performance suggests the extent of economic rehabilitation envisioned through 1956. Appreciable progress is illustrated by the favorable comparison between planned rail ton-kilometer performance in relation to track density and population in North Vietnam and similar indices for neighboring countries of like economic setting. For example, in 1952 rail transport ton-kilometers in Burma, with approximately the same rail density but almost twice the population of North Vietnam, was only double the rail performance planned by the Viet Minh. Malayan rail transport performance in 1952 was three times planned rail ton-kilometers in North Vietnam for 1956, but the difference in track density was of similar magnitude. 13/

B. Strategic

Equally important, in potential at least, are the strategic implications of transport rehabilitation. The Nam Quan rail line, already of proven economic significance, provides the essential link required by the modernized Viet Minh army for logistic support from the north. Its conversion to standard gauge (4'8½"), apparently planned for early 1956, will further increase its potential military importance. Progress is expected to be somewhat slower than anticipated, however, because several difficult sections require realignment and possibly the construction of new yards and stations. When completed, probably about mid-year, it will appreciably augment capacity of the line,

as well as avoid traffic delays now occasioned by transloading at the

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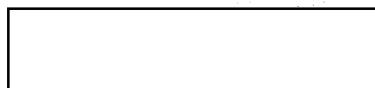
Pingjiang change-of-gauge point in the border area. 15/ Moreover, Chinese Communist rolling stock thereafter can be operated as far south as Hanoi, thereby releasing scarce meter-gauge equipment in North Vietnam for use elsewhere in the country. Permitting an extension of the Chinese Communist rail system into North Vietnam, however, amounts to a concession of Viet Minh sovereignty to a country whose natives traditionally have been viewed with suspicion by Vietnamese.

Contemplated savings in rolling stock may have influenced the timing of conversion of the Kun Quan line, which apparently will be finished about the time the meter-gauge rail line between Hanoi and Lao Kay is entirely operable. Completion of the Lao Kay line will certainly facilitate distribution and development in the Red River area. It may well be of greater advantage to Communist China, however, when plans are fulfilled to restore the partially dismantled 177-kilometer connection to Kunming in 1956. 16/ Basically, it will facilitate the exploitation of Southwest China's mineral resources, which then can be transshipped through Haiphong instead of being hauled long distances overland by truck and inland waterway to consuming and export centers in China. Accompanied by realization of plans to link Kunming directly with the Chinese rail net at Chongqing, it could eventually provide the developing industrial areas of central-west China with access to the sea through Haiphong, the southernmost major Communist port.

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Transport rehabilitation will also improve logistic capabilities to support Viet Minh elements in the south. Continuation of the rail line south along the coast from Haiphong will increase Viet Minh capability to support subversive elements in South Vietnam. Accompanied by restoration of the trunk roads to Lai Chau and Vinh Linh, if it will facilitate the movement of troops and supplies toward the seventeenth parallel, as well as toward the Laotian frontier, in the event of a renewal of hostilities in either area.

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Appendix AGaps in Intelligence

Intelligence coverage on transportation in North Vietnam is generally adequate for the purpose of this paper, although perhaps too greatly weighted by uncorroborated Viet Cong announcements. The next urgent gap, which will become more important as transportation recovers and develops, is the lack of sufficient data to support judgements on the adequacy of transport services to meet demands from various sectors of the economy.

In the absence of direct statements on overall sufficiency of the various modes of transportation, facts are required on the performance of various carriers and the extent of equipment utilization, which can be based on such factors as average tons hauled per unit of inventory, average distance freight is carried, as well as turnaround time and its various components. These factors, however, can be interpreted only in the light of other critical factors such as investment in the transport sector, total available freight-carrying inventory and the volume of production in various other sectors of the economy.

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